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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,650	10/31/2001	Li Fung Chang	ATT-042PUS	2019

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EXAMINER	
NGUYEN, KHAI MINH	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/001,650	CHANG ET AL.	
	Examiner	Art Unit	
	Khai M Nguyen	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/31/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-20* is/are allowed.

6)☒ Claim(s) *1-11 and 14* is/are rejected.

7)☒ Claim(s) *12-13, 15-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/14/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-6, 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Baum et al. (U.S. Pat-6385462)

Regarding claim 1, Baum teaches a method for jointly adapting power and data transmission rate in a wireless network (fig.1, col.3, lines 13-45), comprising:

setting a transmission rate for a mobile station (col.3, line 54 to col.4, line 3);

measuring a signal quality for the mobile station (col.4, lines 4-16);

adjusting, if necessary, a transmission power level towards a power control target associated with the transmission rate (fig.2, col.1, lines 17-33, col.5, lines 32-620; and

adjusting, if necessary, the transmission rate for the mobile station based upon signal quality measured over a period of time (fig.4, col.8, lines 39-59).

Regarding claim 2, Baum teaches the method according to claim 1, further including decreasing the transmission power by a first down amount if the measured signal quality is less than the power control target (fig.1, col.4, lines 39-53).

Regarding claim 3, Baum teaches the method according to claim 2, further including increasing the transmission power by a first up amount if the measured signal quality is greater than the power control target (fig.1, col.4, lines 39-53).

Regarding claim 4, Baum teaches the method according to claim 3, further including maintaining the transmission power at its current level if the measure signal quality is not less than or greater than the power control target (fig.3, col.6, line 54 to col.7, line 43).

Regarding claim 5, Baum teaches the method according to claim 1, further including determining an average signal quality level over the period of time (fig.4, col.4, lines 39-53).

Regarding claim 6, Baum teaches the method according to claim 5, wherein the period of time corresponds to a frame and the average signal quality corresponds to an average SINR level (col.1, lines 17-33).

Regarding claim 9, Baum teaches the method according to claim 5, further including updating the transmission rate based upon the average signal quality (col.9, lines 43 –59).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-8, 10-11, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baum (U.S. Pat-6385462) in view of Gilhousen et al. (U.S. Pat-5812938).

Regarding claim 7, Baum teaches the method according to claim 5, further including incrementing a rate adaptation counter if the average signal quality is greater than or equal to a predetermined low for the current transmission rate.

Baum fails to specifically disclose the method of a predetermined low threshold for the current transmission rate. However, Gilhousen teaches the method of a predetermined low threshold for the current transmission rate (col.4, lines 13-28). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to use the method of a predetermined low threshold for the current transmission rate as taught by Gilhousen with Baum teaching in order to control command corresponding to that data rate.

Regarding claim 8, Baum further teaches the method according to claim 7, further including decrementing the rate adaptation counter if the average signal quality is less then the predetermined low for the current transmission rate (col.1, lines 17-33).

Regarding claim 10, Baum further teaches the method according to claim 8, further including updating the transmission rate based upon the rate adaptation counter (col.9, line 60 to col.10, line 21).

Regarding claim 11, Baum further teaches the method according to claim 10, further including updating the transmission rate for the next frame (fig.4, col.8, lines 46-59).

Regarding claim 14, Baum further teaches the method according to claim 11, further including delaying data transmission to the mobile station by setting the transmission rate to zero (col.9, lines 20-30).

Allowable Subject Matter

3. Claims 12-13, 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 17-20 are allowed.

The following is an examiner's statement of reasons for allowance: Prior art teaches a method for adapting transmission power and transmission rate in a wireless network, comprising: measuring a link quality of a first link in the wireless network; decreasing a current transmission power for the first link if the measured link quality is greater than a target link quality associated with a current transmission rate; increasing the current transmission power for the first link if the measured link quality is less than the target link quality associated with the current transmission rate; maintaining the current transmission power for the first link if the measured link quality is not less than or greater than the link quality associated with the current transmission rate. However, the prior art fails to teaches determining an average link quality measure at predetermined intervals; incrementing or decrementing a counter value based upon a comparison of

the average link quality measure and a predetermined threshold; and increasing or decreasing the current transmission rate for a next one of the predetermined intervals.

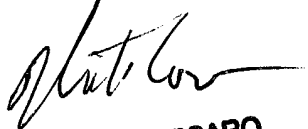
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M Nguyen whose telephone number is 703.305.3906. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703.308.7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khai Nguyen  9/22/2004

NICK CORSARO
PRIMARY EXAMINER